

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/594,417
Source: TFWO
Date Processed by STIC: 10/26/06

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/594, 417

CRF Edit Date: 10/26/06
Edited by: ZL

___ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

___ Corrected the SEQ ID NO. Sequence numbers edited were:

___ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

☒ Deleted: ☒ invalid beginning/end-of-file text ; ___ page numbers

___ Inserted mandatory headings/numeric identifiers, specifically:

___ Moved responses to same line as heading/numeric identifier, specifically:

___ Other:



IFWO

RAW SEQUENCE LISTING

DATE: 10/26/2006

PATENT APPLICATION: US/10/594,417

TIME: 11:46:12

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\10262006\J594417.raw

3 <110> APPLICANT: NIPPON SHOKUBAI CO., LTD.
 5 <120> TITLE OF INVENTION: Method for producing 1,3-propanediol and 3-hydroxypropionic acid
 7 <130> FILE REFERENCE: PH-2376-PCT
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/594,417
 C--> 9 <141> CURRENT FILING DATE: 2006-09-26
 9 <150> PRIOR APPLICATION NUMBER: JP 2004-093417
 10 <151> PRIOR FILING DATE: 2004-03-26
 12 <150> PRIOR APPLICATION NUMBER: JP 2004-124524
 13 <151> PRIOR FILING DATE: 2004-04-20
 15 <160> NUMBER OF SEQ ID NOS: 75
 17 <170> SOFTWARE: PatentIn version 3.1
 19 <210> SEQ ID NO: 1
 20 <211> LENGTH: 558
 21 <212> TYPE: PRT
 22 <213> ORGANISM: Lactobacillus reuteri
 24 <400> SEQUENCE: 1
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 31 20 25 30
 34 Met Gly Pro Asn Asp Pro Lys Pro Ser Val Lys Val Glu Asn Gly Lys
 35 35 40 45
 38 Ile Val Glu Met Asp Gly Lys Lys Leu Glu Asp Phe Asp Leu Ile Asp
 39 50 55 60
 42 Leu Tyr Ile Ala Lys Tyr Gly Ile Asn Ile Asp Asn Val Glu Lys Val
 43 65 70 75 80
 46 Met Asn Met Asp Ser Thr Lys Ile Ala Arg Met Leu Val Asp Pro Asn
 47 85 90 95
 50 Val Ser Arg Asp Glu Ile Ile Glu Ile Thr Ser Ala Leu Thr Pro Ala
 51 100 105 110
 54 Lys Ala Glu Glu Ile Ile Ser Lys Leu Asp Phe Gly Glu Met Ile Met
 55 115 120 125
 58 Ala Val Lys Lys Met Arg Pro Arg Arg Lys Pro Asp Asn Gln Cys His
 59 130 135 140
 62 Val Thr Asn Thr Val Asp Asn Pro Val Gln Ile Ala Ala Asp Ala Ala
 63 145 150 155 160
 66 Asp Ala Ala Leu Arg Gly Phe Pro Glu Gln Glu Thr Thr Thr Ala Val
 67 165 170 175
 70 Ala Arg Tyr Ala Pro Phe Asn Ala Ile Ser Ile Leu Ile Gly Ala Gln
 71 180 185 190
 74 Thr Gly Arg Pro Gly Val Leu Thr Gln Cys Ser Val Glu Glu Ala Thr
 75 195 200 205
 78 Glu Leu Gln Leu Gly Met Arg Gly Phe Thr Ala Tyr Ala Glu Thr Ile

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Output Set: N:\CRF4\10262006\J594417.raw

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83 225      230      235      240
86 Trp Ser Lys Gly Phe Leu Ala Ser Cys Tyr Ala Ser Arg Gly Leu Lys
87      245      250      255
90 Met Arg Phe Thr Ser Gly Ala Gly Ser Glu Val Leu Met Gly Tyr Pro
91      260      265      270
94 Glu Gly Lys Ser Met Leu Tyr Leu Glu Ala Arg Cys Ile Leu Leu Thr
95      275      280      285
98 Lys Ala Ser Gly Val Gln Gly Leu Gln Asn Gly Ala Val Ser Cys Ile
99      290      295      300
102 Glu Ile Pro Gly Ala Val Pro Asn Gly Ile Arg Glu Val Leu Gly Glu
103 305      310      315      320
106 Asn Leu Leu Cys Met Met Cys Asp Ile Glu Cys Ala Ser Gly Cys Asp
107      325      330      335
110 Gln Ala Tyr Ser His Ser Asp Met Arg Arg Thr Glu Arg Phe Ile Gly
111      340      345      350
114 Gln Phe Ile Ala Gly Thr Asp Tyr Ile Asn Ser Gly Tyr Ser Ser Thr
115      355      360      365
118 Pro Asn Tyr Asp Asn Thr Phe Ala Gly Ser Asn Thr Asp Ala Met Asp
119      370      375      380
122 Tyr Asp Asp Met Tyr Val Met Glu Arg Asp Leu Gly Gln Tyr Tyr Gly
123 385      390      395      400
126 Ile His Pro Val Lys Glu Glu Thr Ile Ile Lys Ala Arg Asn Lys Ala
127      405      410      415
130 Ala Lys Ala Leu Gln Ala Val Phe Glu Asp Leu Gly Leu Pro Lys Ile
131      420      425      430
134 Thr Asp Glu Glu Val Glu Ala Ala Thr Tyr Ala Asn Thr His Asp Asp
135      435      440      445
138 Met Pro Lys Arg Asp Met Val Ala Asp Met Lys Ala Ala Gln Asp Met
139      450      455      460
142 Met Asp Arg Gly Ile Thr Ala Ile Asp Ile Ile Lys Ala Leu Tyr Asn
143 465      470      475      480
146 His Gly Phe Lys Asp Val Ala Glu Ala Ile Leu Asn Leu Gln Lys Gln
147      485      490      495
150 Lys Val Val Gly Asp Tyr Leu Gln Thr Ser Ser Ile Phe Asp Lys Asp
151      500      505      510
154 Trp Asn Val Thr Ser Ala Val Asn Asp Gly Asn Asp Tyr Gln Gly Pro
155      515      520      525
158 Gly Thr Gly Tyr Arg Leu Tyr Glu Asp Lys Glu Glu Trp Asp Arg Ile
159      530      535      540
162 Lys Asp Leu Pro Phe Ala Leu Asp Pro Glu His Leu Glu Leu
163 545      550      555
166 <210> SEQ ID NO: 2
167 <211> LENGTH: 1677
168 <212> TYPE: DNA
169 <213> ORGANISM: Lactobacillus reuteri
171 <400> SEQUENCE: 2
172 atgaaacgctc aaaaacgatt tgaagaacta gaaaaacggc caattcatca agatacat 60

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178 gatttgattg acttgtacat tgctaagtat ggaatcaata ttgacaacgt tgaaaaagtt 240
180 atgaatatgg attctaccaa gattgcacgg atgcttggtg atcctaattg ttctcgtgat 300
182 gaaattattg aaattacatc agctttgact cctgctaagg ctgaagagat catcagtaag 360
184 cttgattttg gtgaaatgat tatggctgtc aagaagatgc gccacgctcg taagcctgac 420
186 aaccagtgtc acgttaccaa tactgttgat aaccagttc aaattgctgc tgatgctgct 480
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190 ccattcaatg ctatttcaat tttaattggt gcacaaacag gtcgccctgg tgtattgaca 600
192 caatgttctg ttgaagaagc tactgaattg caattaggta tgcgtgggtt taccgcatat 660
194 gctgaaacca tttcagttta cggtagtgat cgtgtattta ccgatggatg tgatactcca 720
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212 attcaccctg ttaaggaaga aaccattatt aaggcacgtg ataaggccgc taaagccctt 1260
214 caagcagtat ttgaagatct tggattacca aagattactg atgaagaggt cgaagcagca 1320
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224 gacggaaatg attatcaagg accaggtact ggataccgtc tatatgaaga caaggaagaa 1620
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229 <210> SEQ ID NO: 3

230 <211> LENGTH: 558

231 <212> TYPE: PRT

232 <213> ORGANISM: Lactobacillus reuteri

234 <400> SEQUENCE: 3

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240 Gln Asp Thr Phe Val Lys Glu Trp Pro Glu Glu Gly Phe Val Ala Met
241 20 25 30
244 Met Gly Pro Asn Asp Pro Lys Pro Ser Val Lys Val Glu Asn Gly Lys
245 35 40 45
248 Ile Val Glu Met Asp Gly Lys Lys Arg Glu Asp Phe Asp Leu Ile Asp
249 50 55 60
252 Leu Tyr Ile Ala Lys Tyr Gly Ile Asn Ile Asp Asn Val Glu Lys Val
253 65 70 75 80
256 Met Asn Met Asp Ser Thr Lys Ile Ala Arg Met Leu Val Asp Pro Asn
257 85 90 95
260 Val Ser Arg Glu Ser Ile Ile Glu Ile Thr Ser Ala Leu Thr Pro Ala
261 100 105 110
264 Lys Ala Glu Ile Ile Ser Lys Leu Asp Phe Gly Glu Met Ile Met
265 115 120 125
268 Ala Ile Lys Lys Met Arg Pro Arg Arg Lys Pro Asp Asn Gln Cys His

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Output Set: N:\CRF4\10262006\J594417.raw

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277      165      170      175
280 Ala Arg Tyr Ala Pro Phe Asn Ala Ile Ser Ile Leu Ile Gly Ala Gln
281      180      185      190
284 Thr Gly Arg Pro Gly Val Leu Thr Gln Cys Ser Val Glu Glu Ala Thr
285      195      200      205
288 Glu Leu Gln Leu Gly Met Arg Gly Phe Thr Ala Tyr Ala Glu Thr Ile
289      210      215      220
292 Ser Val Tyr Gly Thr Asp Arg Val Phe Thr Asp Gly Asp Asp Thr Pro
293 225      230      235      240
296 Trp Ser Lys Gly Phe Leu Ala Ser Cys Tyr Ala Ser Arg Gly Leu Lys
297      245      250      255
300 Met Arg Phe Thr Ser Gly Ala Gly Ser Glu Val Leu Met Gly Tyr Pro
301      260      265      270
304 Glu Gly Lys Ser Met Leu Tyr Leu Glu Ala Arg Cys Ile Leu Leu Thr
305      275      280      285
308 Lys Ala Ser Gly Val Gln Gly Leu Gln Asn Gly Ala Val Ser Cys Ile
309      290      295      300
312 Glu Ile Pro Gly Ala Val Pro Asn Gly Ile Arg Glu Val Leu Gly Glu
313 305      310      315      320
316 Asn Leu Leu Cys Met Met Cys Asp Ile Glu Cys Ala Ser Gly Cys Asp
317      325      330      335
320 Gln Ala Tyr Ser His Ser Asp Met Arg Arg Thr Glu Arg Phe Ile Gly
321      340      345      350
324 Gln Phe Ile Ala Gly Thr Asp Tyr Ile Asn Ser Gly Tyr Ser Ser Thr
325      355      360      365
328 Pro Asn Tyr Asp Asn Thr Phe Ala Gly Ser Asn Thr Asp Ala Met Asp
329      370      375      380
332 Tyr Asp Asp Met Tyr Val Met Glu Arg Asp Leu Gly Gln Tyr Tyr Gly
333 385      390      395      400
336 Ile His Pro Val Gln Glu Glu Thr Ile Ile Lys Ala Arg Asn Lys Ala
337      405      410      415
340 Ala Lys Ala Leu Gln Ala Val Phe Glu Asp Leu Gly Leu Pro Lys Ile
341      420      425      430
344 Thr Asp Glu Glu Val Glu Ala Ala Thr Tyr Ala Asn Thr His Asp Asp
345      435      440      445
348 Met Pro Lys Arg Asp Met Val Ala Asp Met Lys Ala Ala Gln Asp Met
349      450      455      460
352 Met Asp Arg Gly Ile Thr Ala Ile Asp Ile Ile Lys Ala Leu Tyr Asn
353 465      470      475      480
356 His Gly Phe Lys Asp Val Ala Glu Ala Val Leu Asn Leu Gln Lys Gln
357      485      490      495
360 Lys Val Val Gly Asp Tyr Leu Gln Thr Ser Ser Ile Phe Asp Lys Asp
361      500      505      510
364 Trp Asn Ile Thr Ser Ala Val Asn Asp Gly Asn Asp Tyr Gln Gly Pro
365      515      520      525

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DATE: 10/26/2006

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TIME: 11:46:12

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\10262006\J594417.raw

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368 Gly Thr Gly Tyr Arg Leu Tyr Glu Asp Lys Glu Glu Trp Asp Arg Ile
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373 545                      550                      555
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377 <211> LENGTH: 1677
378 <212> TYPE: DNA
379 <213> ORGANISM: Lactobacillus reuteri
381 <400> SEQUENCE: 4
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386 agtgtaaaagg ttgaaaacgg taaaattgtc gaaatggatg gcaagaagcg ggaagacttt      180
388 gacttaattg acctctacat tgctaagtat ggaattaata ttgataacgt tgaaaaagtt      240
390 atgaatatgg attcaactaa aattgcacgg atgttggttg atccaaatgt ctcacgtgaa      300
392 tccatcattg aaattacttc tgcactaact ccagcgaaaag ccgaagaaat cattagtaag      360
394 cttgactttg gtgaaatgat tatggctatc aagaagatgc gtccgcgtcg gaagccggat      420
396 aaccaatgtc acgttaccaa cacggttgat aaccacgttc aaattgctgc tgatgctgct      480
398 gatgctgcgc ttcgtggttt cccagaacaa gaaactacta ctgccgttgc ccgttatgca      540
400 ccatttaatg ctatttcaat cttaattggt gctcaaacag gtcgtcctgg tgtattaaca      600
402 caatgttctg ttgaagaagc aaccgaattg caattaggaa tgcgtggcctt taccgcttat      660
404 gctgaaacta tttcagttta tggctactgac cgggtattta ctgatggtga tgatacacca      720
406 tgggtctaaag gattccttgc atcatgttat gcatcgcgtg gtttgaagat gcggtttact      780
408 tcagggtgctg gttcagaagt tttgatgggt taccagaag gtaagtcaat gttatatctt      840
410 gaagcacgtt gtattttact taccaggct tcagggttc aaggacttca aaacggtgcc      900
412 gtaagttgta ttgaaattcc aggtgctgtt cctaacggta tccgtgaagt tcttggtgaa      960
414 aacctattat gtatgatgtg tgatattgaa tgtgcttctg gttgtgacca agcatactca     1020
416 cactcagata tgcggcgtag tgaacggttt attggtcaat ttattgccgg tactgattac     1080
418 attaattctg gttactcatc aactcctaac tacgataaca cctttgctgg ttcaaaccac     1140
420 gatgcaatgg actacgatga catgtatgtt atggaacgtg acttaggtca atactatggt     1200
422 attcaccag ttcaagaaga aacaattatt aaggctcgtg acaaggctgc taaggcatta     1260
424 caagctgtat ttgaagatct tggactacct aagattactg atgaagaagt tgaagctgct     1320
426 acatatgcta acactcatga tgacatgcc aacgtgaca tggttgcaga tatgaaagcc     1380
428 gctcaagata tgatggatcg tggcattact gctattgata ttattaaggc tctttataac     1440
430 catggattta aggatgttgc tgaagctgta ttgaaccttc aaaagcaaaa ggttgtcggg     1500
432 gattaccttc aaacttcatc aatctttgac aaggattgga atatcacttc tgccgtaaat     1560
434 gacgggaatg actaccaagg tccaggtagt ggataccgtc tatatgaaga caaggaagaa     1620
436 tgggatcgaa tcaaagatct tccattcgca cttgatccag aacacttgga actatag      1677
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440 <211> LENGTH: 236
441 <212> TYPE: PRT
442 <213> ORGANISM: Lactobacillus reuteri
444 <400> SEQUENCE: 5
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450 Leu Ser Glu Thr Asn Gln Ile Asp Thr Lys Ile Asp Phe Asp Lys Ser
451      20                      25                      30
454 Asn Asp Ser Thr Ala Thr Ala Thr Gln Glu Val Gln Gln Pro Asn Ser
455      35                      40                      45
458 Lys Ala Val Pro Glu Lys Lys Leu Asp Trp Phe Gln Pro Val Gly Glu

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RAW SEQUENCE LISTING ERROR SUMMARY

DATE: 10/26/2006

PATENT APPLICATION: US/10/594,417

TIME: 11:46:13

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\10262006\J594417.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:27,28,29,30,31,32,33,34,35,36,37,38,39,40,46,47,48,49,50,51,52,71,72,73

Seq#:74,75

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/594,417

DATE: 10/26/2006

TIME: 11:46:13

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\10262006\J594417.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application No

L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date

**Raw Sequence Listing before editing
(for reference only)**

—



IFWO

RAW SEQUENCE LISTING

DATE: 10/23/2006

PATENT APPLICATION: US/10/594,417

TIME: 17:25:17

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\10232006\J594417.raw

3 <110> APPLICANT: NIPPON SHOKUBAI CO., LTD.

5 <120> TITLE OF INVENTION: Method for producing 1,3-propanediol and 3-hydroxypropionic acid

7 <130> FILE REFERENCE: PH-2376-PCT

C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/594,417

C--> 9 <141> CURRENT FILING DATE: 2006-09-26

9 <150> PRIOR APPLICATION NUMBER: JP 2004-093417

10 <151> PRIOR FILING DATE: 2004-03-26

12 <150> PRIOR APPLICATION NUMBER: JP 2004-124524

13 <151> PRIOR FILING DATE: 2004-04-20

15 <160> NUMBER OF SEQ ID NOS: 75

17 <170> SOFTWARE: PatentIn version 3.1

Handwritten notes:

3690-3699
 Deleted Sequence Needed
 (pg.1) ↻

ERRORED SEQUENCES

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3692 <212> TYPE: DNA

3693 <213> ORGANISM: Artificial

3695 <220> FEATURE:

3696 <223> OTHER INFORMATION: synthetic DNA

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50

E--> 3708 (1/60)

Handwritten note:

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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/23/2006
PATENT APPLICATION: US/10/594,417 TIME: 17:25:19

Input Set : A:\PTO.KD.txt
Output Set: N:\CRF4\10232006\J594417.raw

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per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:27,28,29,30,31,32,33,34,35,36,37,38,39,40,46,47,48,49,50,51,52,71,72,73
Seq#:74,75

VERIFICATION SUMMARY

DATE: 10/23/2006

PATENT APPLICATION: US/10/594,417

TIME: 17:25:19

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\10232006\J594417.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application No

L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:3708 M:254 E: No. of Bases conflict, LENGTH:Input:60 Counted:51 SEQ:75

L:3708 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:2

L:3708 M:252 E: No. of Seq. differs, <211> LENGTH:Input:50 Found:51 SEQ:75